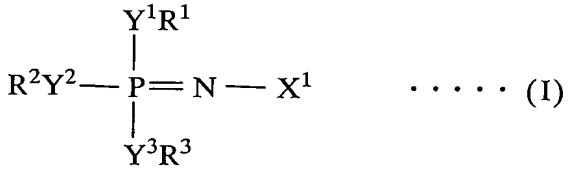
CLAIMS

1. A separator for a non-aqueous electrolyte cell comprising a microporous film formed by adding a phosphazene derivative and/or an isomer of a phosphazene derivative to a polymer.

2. A separator for a non-aqueous electrolyte cell according to claim 1, wherein a total amount of the phosphazene derivative and/or the isomer of the phosphazene derivative added to 100 parts by mass of the polymer is 0.5-10 parts by mass.

3. A separator for a non-aqueous electrolyte cell according to claim 1, wherein the phosphazene derivative is a phosphazene derivative having a viscosity at 25°C of not more than 300 mPa·s (300 cP) and represented by the following formula (I) or (II):



$$R^2Y^2-\underset{\displaystyle Y^3R^3}{\overset{\displaystyle Y^1R^1}{P}}=N-X^1 \qquad \cdots\cdots (I)$$

(wherein R^1, R^2 and R^3 are independently a monovalent substituent or a halogen element; X^1 is a substituent containing at least one element selected from the group consisting of carbon, silicon, germanium, tin, nitrogen, phosphorus, arsenic, antimony, bismuth, oxygen, sulfur, selenium, tellurium and polonium; and Y^1, Y^2 and Y^3 are independently a bivalent connecting group, a bivalent element or a single bond)

$$(NPR^4{}_2)_n \qquad \cdots\cdots (II)$$

(wherein R^4 is independently a monovalent substituent or a halogen element; and n is 3-15).

4. A separator for a non-aqueous electrolyte cell according to claim 3, wherein the phosphazene derivative of the formula (II) is a phosphazene derivative represented by the following formula (III):

$$(NPF_2)_n \qquad \cdots\cdots (III)$$

(wherein n is 3-13)

5. A separator for a non-aqueous electrolyte cell according to claim 3, wherein the phosphazene derivative of the formula (II) is a

phosphazene derivative represented by the following formula (IV):

$(NPR^5_2)_n$ ····· (IV)

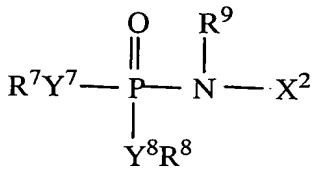
(wherein R^5 is independently a monovalent substituent or fluorine, and at least one of all R^5s is a fluorine containing monovalent substituent or fluorine; and n is 3-8, provided that all R^5s are not fluorine).

6. A separator for a non-aqueous electrolyte cell according to claim 1, wherein the phosphazene derivative is a phosphazene derivative being a solid at 25°C and represented by the following formula (V):

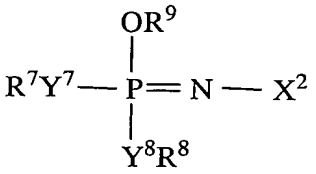
$(NPR^6_2)_n$ ····· (V)

(wherein R^6 is independently a monovalent substituent or a halogen element; and n is 3-6).

7. A separator for a non-aqueous electrolyte cell according to claim 1, wherein the isomer of the phosphazene derivative is an isomer represented by the following formula (VI) and of a phosphazene derivative represented by the following formula (VII):



····· (VI)



····· (VII)

(in the formulae (VI) and (VII), R^7, R^8 and R^9 are independently a monovalent substituent or a halogen element; X^2 is a substituent containing at least one element selected from the group consisting of carbon, silicon, germanium, tin, nitrogen, phosphorus, arsenic, antimony, bismuth, oxygen, sulfur, selenium, tellurium and polonium; and Y^7 and Y^8 are independently a bivalent connecting group, a bivalent element or a single bond).

8. A separator for a non-aqueous electrolyte cell according to claim 1, wherein the polymer is a polyolefin.

9. A separator for a non-aqueous electrolyte cell according to claim 8, wherein the polyolefin is polyethylene or polypropylene.